

昆 虫 学 报

KUNCHONG XUEBAO

第 56 卷 第 1 ~ 12 期

总 目 次

研究论文

◆ 生理与生化

- 1 小菜蛾溴氰菊酯敏感和抗性品系蛋白质表达谱的比较分析(英文)
张娜娜, 张 宏, 程 晨, 李凤良, 高少奇, 程罗根
- 9 中华蜜蜂感觉神经元膜蛋白基因克隆、组织表达分析及原核表达
胡颖颖, 徐书法, 李 薇, Abebe Jenberie WUBIE, 国占宝, 周 婷
- 111 烟粉虱 MEAM1 隐种漆酶-1 基因全长 cDNA 克隆、序列分析与组织表达
杨春红, 彭 露, 郭建洋, 严 盈, 万方浩, 王进军
- 120 中华通草蛉自然越冬成虫在两种光周期下滞育解除过程中的生理生化变化
陈珍珍, 赵 楠, 印象初, 张 帆, 许永玉
- 131 应用差示扫描量热法检测昆虫总蛋白的热滞活性
崔宁宁, 宋希明, 邹元平, 郝树广, 许永玉, 王宪辉
- 219 褐飞虱中肠内膜结合短肽 P2S 的筛选
邵恩斯, 林立金, 关 雄
- 228 柑橘木虱酵母双杂交 cDNA 文库的构建及评价
马晓芳, 陈国庆, 张学潮, 徐海君
- 234 烟粉虱 MED 隐种保幼激素酯酶 cDNA 片段克隆、序列分析及在不同发育阶段的表达
龙楚云, 郭建洋, 万方浩
- 243 桃蛀螟成虫 Orco 嗅觉受体基因的克隆及组织表达谱分析
葛 星, 张天涛, 何康来, 王勤英, 李云龙, 王振营
- 251 二化螟滞育幼虫的蛋白和核酸含量以及保护酶活性的变化
杨光平, 刘玉娣, 侯茂林
- 329 葱蝇海藻糖-6-磷酸合成酶基因的克隆、序列分析及滞育相关表达
李 源, 郝友进, 张玉娟, 司凤玲, 陈 斌
- 339 斜纹夜蛾水通道蛋白 1(AQP1) 基因的克隆、分子特性和表达分析
刘海远, 舒本水, 姜春来, 李良德, 钟国华
- 350 家蚕复眼突变系光泽眼(*lu*)和光泽小眼(*ve*)的复眼形态观察
李琼艳, 刘 春, 荀利杰, 李 栋, 党增强, 吕金凤, 夏庆友
- 358 棉铃虫卵巢形态与卵子发生过程观察
张万娜, 肖海军, 梁革梅, 郭予元
- 365 中国和美国红火蚁毒腺生物碱组分的比较分析
官 迪, 廖晓兰, 陈 立
- 457 小菜蛾热休克蛋白基因的鉴定及其表达模式分析
夏晓峰, 林海兰, 郑丹丹, 杨 广, 尤民生
- 465 棉铃虫 P450 基因 *HarmCYP9A33* 的克隆、序列分析及原核表达
姬继超, 安世恒, 李为争, 罗梅浩, 原国辉, 郭线茹
- 475 黄粉虫热休克蛋白 70 基因的克隆、序列分析与表达(英文)
黄 琼, 胡 杰, 孙 灵, 王 勤
- 486 婚飞行为影响中华蜜蜂性成熟处女蜂王的基因表达
吴小波, 王子龙, 张 飞, 石元元, 曾志将
- 494 氟化物对家蚕耐氟和氟化物敏感品种幼虫中肠羧酸酯酶及全酯酶活性的影响
米 智, 阮成龙, 李姣蓉, 付巧娟, 武婧洁, SENDEGEYA Parfait, 朱 勇
- 499 家蚕卵显微注射操作对蚕卵孵化及畸形蚕发生的影响
赵天福, 韩 冷, 王玉军, 朱 勇, 张高军, 中垣雅雄
- 575 绿盲蝽气味结合蛋白 *AlucOBP7* 的表达及气味结合特性
纪 萍, 刘靖涛, 谷少华, 朱晓强, 张永军, 郭予元

- 584 烟粉虱 MEAM1 隐种卵黄原蛋白受体基因 cDNA 克隆、序列分析及在不同发育时期的表达
程 璐, 郭建洋, 刘树生, 叶恭银
- 594 两种色型黄粉虫酚氧化酶原的 cDNA 克隆、生物信息学分析及表达水平检测
黄 琼, 胡 杰, 王 勤
- 605 麦红吸浆虫蜕皮激素受体(EcR)基因的克隆与表达分析
马康生, 李伯辽, 陈 浩, 仵均祥
- 612 桔小实蝇气味结合蛋白 BdorOBP2 的 cDNA 克隆、组织表达及配基结合特性
陈 玲, 李红亮, 周宇翔, 赵 磊, 张林雅, 倪翠侠, 商晗武
- 622 外用保幼激素与早熟素对丽斗蟋翅二型个体飞行与生殖发育间生理权衡的影响(英文)
赵吕权, 朱道弘
- 630 幼虫密度对草地螟血细胞数量和组成的影响
杨志兰, 程云霞, 罗礼智, 孔海龙, 张 蕾, 雷朝亮
- 715 整合素 β 亚基参与调节腰带长体茧蜂多胎增殖过程
颜 曦, 王 鹏, 胡 建
- 724 基于转录组数据高通量发掘黄粉甲微卫星引物(英文)
朱家颖, 吴国星, 杨 斌
- 729 东亚飞蝗 *fem-1* 基因的克隆与表达分析
时 红, 郝友进, 陈 斌, 司凤玲, 王 鹏, 何正波
- 738 烟粉虱 MED 隐种铁蛋白基因克隆、不同发育阶段和吡虫啉胁迫下的表达及原核表达
白润娥, 王雄雅, 李静静, 刘晓华, 熊大斌, 李冬兵, 曹玲琬, 闫凤鸣
- 747 麦长管蚜在长期镉胁迫下超氧化物歧化酶和乙酰胆碱酯酶基因的表达水平变化
高欢欢, 杨 杰, 白小惠, 张 丽, 赵惠燕
- 754 二化螟 Minus-C 气味结合蛋白的分子克隆及功能鉴定
魏 丹, 叶占峰, 高建清, 董双林
- 765 四种不同来源的超氧化物歧化酶(SOD)对黑腹果蝇寿命、繁殖力和抗逆能力的影响
黄晓峰, 林夏丹, 朱倩婷, 张文庆
- 831 对人工饲料摄食性不同的家蚕品种 *Cph2* 基因的表达特征分析
李 娟, 张升祥, 徐 欣, 张 进, 郭晓琪, 卓微伟, 周前凯, 刘庆信, 崔为正, 徐世清
- 841 丽蝇蛹集金小蜂 Pacifastin 蛋白酶抑制剂基因 *nvp-1* 和 *nvp-2* 的功能研究
钱 岑, 方 琦, 王 磊, 叶恭银
- 854 家蝇 Denfensin-1 基因的克隆、诱导表达及启动子活性分析
卢 丹, 郑 立, 王欣欣, 王 凡, 唐 婷, 柳峰松
- 965 斜纹夜蛾中肠糖代谢相关基因的克隆及表达模式分析
罗婉冰, 何文婧, 黄玉秋, 胡 丹, 黄立华, 冯启理
- 974 小峰熊蜂蜂毒磷脂酶 A2 基因的克隆及表达谱分析
高丽娇, 黄家兴, 吴 杰
- 982 中华通草蛉自然越冬成虫在长、短光周期下滞育解除中体内相关酶活力变化
陈珍珍, 宋 暖, 郭亚楠, 于金凤, 印象初, 张 帆, 许永玉
- 989 角马蜂贮精囊及精子的形态学观察
谭江丽, 李军林, 邢连喜, 陈学新
- 1101 小菜蛾鞣化激素基因克隆及其功能分析
马小丽, 何玮毅, 尤燕春, 李晓静, 徐秀凤, 胡玉兰, 杨 广, 尤民生
- 1110 中华蜜蜂性信息素结合蛋白 ASP1 的原核表达及配基结合特性分析
翁 琛, 张林雅, 赵 磊, 付余霞, 罗 晨, 李红亮
- 1117 卡尼鄂拉蜂锌转运蛋白-7 相似蛋白(ZnT-7-like)的基因克隆、抗体制备及差异表达
沈 杰, 刘振国, 沈 芳, 吉 挺
- 1127 酵母双杂交筛选华北大黑鳃金龟触角均一化 cDNA 文库
王 冰, 尹 姣, 李克斌, 曹雅忠
- 1235 褐飞虱唾液腺中水稻抗性适应基因的分离
陈鹏宇, 刘顺枝, 王小兰
- 1244 褐飞虱表皮蛋白基因 *NUCP* 的克隆及功能研究
马 艳, 郝培应, 陆潮峰, 俞晓平
- 1252 意大利蜜蜂工蜂脂肪体胚后发育过程中细胞的增殖和凋亡
李兆英
- 1367 热带地区相对湿度的季节性变化影响果蝇 *Drosophila jambulina* 体色多型性和水分平衡(英文)
Ekta KHASA, Parul BADHWAR, Veer BHAN

- 1381 荒漠昆虫小胸鳖甲抗菌肽 Attacin 基因的克隆及低温表达模式分析
李洁琼, 陆雪莹, 刘小宁, 马 纪
- ❖ **病理**
- 18 海南地区螺旋粉虱三类次级内共生菌的检测及系统发育分析
于卫卫, 杜予州, 李伟东
- 372 自然界斜纹夜蛾核型多角体病毒的基因型多态性(英文)
刘艳荷, 王利华, 方继朝
- 505 细菌感染后家蚕幼虫中肠差异表达基因的鉴定(英文)
朱艳菊, 吕志强
- 864 感染布氏白僵菌后油松毛虫血淋巴中海藻糖酶活性、海藻糖和葡萄糖含量的变化
樊金华, 谢映平, 薛皎亮, 张海涛
- ❖ **毒理与抗性**
- 29 烯啶虫胺、毒死蜱和高效氯氟菊酯对烟粉虱地中海隐种 *hsp70* mRNA 的诱导表达
郭雅洁, 梁 沛, 高希武
- 39 吡虫啉对褐飞虱 DNA 甲基化多态性的影响
董德臻, 董燕飞, 葛周苗, 王冬梅, 陈 杰, 卢泳全
- 47 α -萜品醇熏蒸对大麦虫体内抗氧化酶活性的影响
田雨浓, 马 伟, 韦庆慧, 罗 帅, 韩旭洋, 陈旭日, 邱本军, 马 玲
- 136 四种杀菌剂对玉米螟赤眼蜂酚氧化酶活性的影响
金华超, 尹晓辉, 朱国念
- 257 七星瓢虫成虫石油醚提取物的化学成分及抑菌活性
孙 涛, 张雅梅, 张 霞, 田 野, 李亚威, 刘文丛
- 379 一个致倦库蚊杀虫剂敏感品系的筛选
岳秋娟, 姚淑敏, 刘洋洋, 刘石娟, 崔 峰
- 512 斑蝥素对草地贪夜蛾 Sf9 细胞膜完整性和膜电位的影响
汪 丽, 张来喜, 张志勇, 杨宝东, 王进忠, 张爱环, 张民照
- 521 茚虫威和高效氯氟菊酯对小菜蛾的亚致死效应
宋 亮, 章金明, 吕要斌
- 530 喷雾方式及喷液量对吡蚜酮和啶虫脒在棉田的沉积分布及棉蚜防治效果的影响
朱玉坤, 郑岩明, 王 杰, 夏晓明, 王开运
- 638 河北转 Bt 基因棉田棉铃虫对杀虫药剂的抗性及相关酶活性的变化
张少华, 李 哲, 马 卓, 王春一, 李春英, 王秀吉, 何运转
- 772 脱氧鬼臼毒素对美洲大蠊乙酰胆碱受体信号通路分子 mRNA 表达水平的影响
李 艳, 王立山, 刘景丽, 王 军, 程 洁, 高聪芬, 肖 杭, 高 蓉
- 779 41 种植物精油对淡色库蚊的熏蒸活性
付臣臣, 万 涛, 江志利, 吴 华, 冯俊涛, 马志卿, 张 兴
- 870 摄入异烟肼对家蚕幼虫体内谷胱甘肽氧化还原循环和谷胱甘肽 S-转移酶活性的影响
魏广兵, 王 璐, 殷为民, 何 月, 朱文娟, 周前凯, 赵林川, 徐世清, 司马杨虎
- 1135 CryIIe 毒素胁迫下亚洲玉米螟的抗性发展及汰选种群对其他 Bt 毒素的交互抗性
贺明霞, 何康来, 王振营, 王新颖, 李 庆
- 1143 抗吡虫啉棉蚜种群对啶虫脒和噻虫胺的交互抗性及相关酶学机理
陈小坤, 夏晓明, 王红艳, 乔 康, 王开运
- 1152 二斑叶螨不同抗性品系最佳内参基因的筛选及 CYP392E 亚家族基因的表达分析
杨顺义, 岳秀利, 王进军, 沈慧敏
- 1258 吡虫啉对意大利蜜蜂脑乙酰胆碱受体分布的影响
周 婷, 宋怀磊, 王 强, 代平礼, 吴艳艳, 孙继虎
- 1391 冬青油与肉桂油对淡色库蚊的生物活性
马卫宾, 冯俊涛, 马志卿, 江志利, 张 兴
- ❖ **生态与害虫治理**
- 54 拌种吡虫啉残留对麦长管蚜实验种群的影响
张云慧, 韩二宾, 李祥瑞, 蒋金炜, 程登发
- 60 蓟马锉吸胁迫对垂叶榕叶片表面超微结构及其蛋白质和氨基酸含量的影响
余德亿, 胡进锋, 黄 鹏, 姚锦爱, 蓝炎阳, 方大琳
- 69 枣实蝇生物学特性研究
胡陇生, 田呈明, 朱银飞, 周忠赞, 任 玲, 齐长江

- 145 光温条件明显影响棉铃虫的滞育强度
陈元生, 陈超, 刘兴平, 薛芳森
- 153 多异瓢虫对瓜蚜为害后植物挥发物的行为反应及挥发物成分分析
李艳艳, 周晓榕, 庞保平, 韩海斌, 闫锋
- 161 瓜实蝇对虚拟波长下不同颜色的趋性(英文)
薛皇娃, 吴伟坚
- 167 二疣犀甲室内生物学特性及形态观察
钟宝珠, 吕朝军, 王东明, 章伟权, 李洪, 王智
- 173 浙江天目山种植林管理历史及粗死木残体特征影响柳杉腐木甲虫多样性(英文)
吴捷, 潘卉, 杨淑贞, 牛晓玲
- 263 不同温度下松毛虫赤眼蜂孤雌产雌品系和两性生殖品系对米蛾卵的寄生功能反应
谢丽娜, 董辉, 钱海涛, 闫京京, 丛斌
- 270 外源茉莉酸诱导的青杨叶片保护性酶活性变化及其对舞毒蛾幼虫生长发育的影响
赵慧芳, 段立清, 李海平, 张丽娜, 王晓丽, 张志林
- 276 短时高温暴露对土耳其斯坦叶螨和截形叶螨的影响
杨帅, 赵冰梅, 李广云, 胡素丽, 郭艳兰, 张建萍
- 286 云南紫胶虫与粗纹举腹蚁之间的互利关系
王思铭, 陈又清, 卢志兴, 刘春菊, 张威
- 293 南京地区外来植物一年蓬上訪花昆虫的多样性及其訪花选择性的影响因素分析
宋海天, 李保平, 孟玲
- 385 牛角花齿蓟马为害后苜蓿不同器官中氮、磷、钾和钙含量的变化
景康康, 师尚礼, 胡桂馨, 王小珊, 朱博
- 392 管氏肿腿蜂雌性抚育中幼虫转移行为的启动和节律
伍绍龙, 徐福元, 李保平, 孟玲
- 537 内蒙古天然草原不同放牧压力下亚洲小车蝗的食性及营养生态位(英文)
刘贵河, 郝树广, 邵新庆, 张英俊, 汪诗平
- 644 番茄感染双生病毒对叶毛密度和海氏紫角蚜小蜂搜寻行为及适合性的影响
潘登, 王岚岚, 刘树生, 李元喜, 刘银泉
- 652 新疆地区烟粉虱生物型的区域分布及其携带的番茄黄化曲叶病毒检测
曹骞, 李晶, 买热木古丽·克依木, 王惠卿, 李国志, 马德英
- 665 UV-B 胁迫小麦上麦长管蚜的生命表参数和取食行为
张丽, 周冬, 杨杰, 朱国平, 赵惠燕, 胡祖庆, 胡想顺
- 671 温度对产虫茶昆虫紫斑谷螟生长发育的影响
尚小丽, 杨茂发, 张昌容, 蔡兰, 冯友丽, 邱婷
- 680 转植酸酶基因玉米对步甲群落动态的影响
赵彩云, 肖能文, 柳晓燕, 何丁元, 关潇, 白加德, 李俊生
- 786 温湿度对稻纵卷叶螟卵的联合作用
方源松, 廖怀建, 钱秋, 刘向东
- 792 视觉和嗅觉信号对果蝇食物搜寻行为的协同作用
冯波, 王霞, 李岩, 杜永均
- 799 寄主植物对水椰八角铁甲发育历期、取食和繁殖的影响
席博, 张秩勇, 侯有明, 石章红
- 878 红眼突变灰飞虱的生物学特性和交配优势
王利华, 庄泽进, 李永藤, 方继朝
- 884 凹唇壁蜂成蜂体重与取食对其飞行能力的影响
丁楠, 辛星光, 周仙红, 门兴元, 于毅, 张安盛, 李丽莉, 庄乾营
- 890 厚环黑蝇生长发育规律及其对于死亡时间推断的意义
马婷, 桂灵峰, 王江峰
- 896 中国昆虫区系的多元相似性聚类分析和地理区划
申效诚, 刘新涛, 任应党, 申琪, 刘晓光, 张书杰
- 996 光周期和温度对亚洲玉米螟滞育诱导的影响
郭建青, 张洪刚, 王振营, 何康来
- 1004 温度对沙蒿金叶甲生长发育和繁殖的影响
魏淑花, 朱猛蒙, 张蓉, 黄文广, 于钊

- 1010 米蛾卵繁育的螟黄赤眼蜂的适宜冷贮温度和虫龄
袁 曦, 冯新霞, 李敦松, 张宝鑫, 王振营
- 1160 草地螟阿格姬蜂的滞育诱导和滞育茧的低温贮藏
徐忠宝, 刘爱萍, 徐林波, 高书晶, 王建梅, 苏春芳, 康爱国, 张玉慧
- 1166 寄生取食 Cry1Ab 杀虫蛋白的粘虫幼虫对伞裙追寄蝇寄生率及生长发育的影响
杨海霞, 程云霞, 张 蕾, 牛长缨, 罗礼智
- 1174 西花蓟马取食对菜豆防御基因表达的诱导作用
从春蕾, 邱军锐, 谢路飞, 牟 峰
- 1181 仿爱夜蛾成虫对敦煌莫高窟模拟洞窟壁画的选择趋性
汪万福, 武发思, 张国彬, 赵林毅
- 1189 华北二点委夜蛾种群动态监测及北京北部地区虫源性质分析
张 智, 张云慧, 姜玉英, 谢爱婷, 魏书军, 程登发, 蒋金炜, 张方梅, 彭 赫
- 1267 果蝇 *Drosophila biarmipes* 翅斑二型性的生态学意义(英文)
Ravi PARKASH, Chanderkala LAMBHOD, Divya SINGH
- 1275 转 *cry1Ab/vip3H + epsps* 基因粳稻对非靶标害虫稻叶蝉田间种群的影响
卢增斌, 韩乃顺, 徐 刚, 刘玉娥, 胡 萃, 彭于发, 郭予元, 叶恭银
- 1286 不同环境变量下银胶菊叶甲的生命表(英文)
OMKAR, Shruti RASTOGI, Ahmad PERVEZ
- 1294 基于特定时间调查数据组建的白蜡窄吉丁种群生命表
路纪芳, 王智勇, 杨忠岐, 魏 可, 杨远亮, 王 健, 司徒春南, 付甫永
- 1306 一种基于 LED 灯的自适应捕虫方法
杨 慧, 李 鹏, 金基宇, 赵 昕, 王智森
- 1314 云南橡胶林和天然次生林枯落物层蚂蚁物种多样性、群落结构差异及指示种
张念念, 陈又清, 卢志兴, 张 威, 李可力
- 1397 铜绿丽金龟对圆偏振光的行为和视网膜电位反应
蒋月丽, 郭予元, 武予清, 苗 进, 巩中军, 段 云, 李 彤
- 1404 桔小实蝇、木瓜实蝇和番石榴实蝇耐热性的热动力学分析
李柏树, 詹国平, 王跃进, 任荔荔, 刘 波, 李天秀
- 1413 施钾与蚜害处理后马铃薯叶片中多酚氧化酶活性的变化
马晓林, 白 雪, 李惠君, 徐松鹤, 任 琴
- 1418 东北地区粘虫的季节性迁飞行为(英文)
张云慧, 张 智, 李 超, 姜玉英, 曾 娟, 程登发
- 1430 南昌地区灰飞虱的生活史、繁殖和越冬生物学特性
王柳风, 傅 淑, 肖 亮, 陈 超, 薛芳森
- 1440 嘴壶夜蛾的形态、生活史及昼夜节律
冯 波, 胡武新, 潘 华, 杜永均

◆ 进化与系统学

- 79 内蒙古亚洲小车蝗种群遗传多样性的微卫星分析
韩海斌, 周晓榕, 庞保平, 张敏哲, 李海平
- 186 利用 *mtCOI* PCR-RFLP 技术鉴定中国境内九个烟粉虱隐种
秦 丽, 王 佳, 酆孝利, 刘树生
- 299 四种天牛的核型比较研究
苏丽娟, 张鸿飞, 徐 卫, 尹新明, 李 京, 高新浩
- 306 孤雌生殖长角血蜱的哈氏器超微结构与发育
王 多, 胡永红, 刘敬泽
- 398 双翅目昆虫线粒体基因组结构特点及其测序通用引物的设计 and 应用
张乃心, 张玉娟, 余 果, 陈 斌
- 408 两种纺织娘线粒体基因组的比较分析
周志军, 杨明茹, 常岩林, 石福明
- 548 线粒体假基因用作分子化石推算两个榕小蜂姐妹种的分化时间(英文)
娄文静, 滕文佳, 刘海洋, 李 子, 肖金花, 魏重远, 黄大卫
- 554 海南岛中华蜜蜂遗传多样性的微卫星 DNA 分析
徐新建, 周妹婧, 朱翔杰, 周冰峰
- 689 利用种特异性 COI 引物(SS-COI)鉴别扶桑绵粉蚧
田 虎, 李小凤, 万方浩, 张桂芬, 张金良

- 807 秦岭地区赤胸梳爪步甲种群的遗传多样性和扩张历史分析(英文)
阴 环, 李晓晨
- 907 基于线粒体 COI 基因序列的黄胫小车蝗不同地理种群的遗传分化及基因流分析
孙 翥, 张柱亭, 董 辉, 钱海涛, 石 玉, 谢丽娜, 丛 斌
- 1020 上海地区新入侵草坪害虫早熟禾拟茎草螟的鉴定及危害
高 磊, 鞠瑞亭, 丁俊杰, 徐 颖, 王建国
- 1203 中国辽秃蝗属的分类研究及二新种记述(直翅目, 蝗总科, 斑腿蝗科, 秃蝗亚科)(英文)
印象初, 陈珍珍, 印 展
- 1324 海南地区螺旋粉虱种群 mtDNA-COI 和 rDNA-ITS1 基因的序列及系统发育分析
于卫卫, 杨文晏, 杜予州, 李伟东
- 1335 基于稀疏编码和 SCG BPNN 的鳞翅目昆虫图像识别
竺乐庆, 张 真
- 1452 不同地理种群烟蚜形态特征差异分析
赵 冲, 王秀芳, 陈 丹, 王新伟, 薛 冬, 任广伟
- 1464 中国小乌蜚属的分类研究及二新种记述(直翅目, 蜚总科, 脊蜚科)(英文)
印象初, 郑方强, 印 展

综 述

- 88 蚊虫嗅觉识别的神经机制
陆鹏飞, 乔海莉, 骆有庆
- 312 转录调控因子 Fox 的功能及分子机制研究进展
刘朝阳, 高绘菊, 牟志美, 刘庆信
- 419 白蚁信息素研究进展
程冬保
- 427 潜蝇姬小蜂属寄生蜂对潜叶蝇的控害特性及应用
刘万学, 王文霞, 王 伟, 张毅波, 万方浩
- 561 蜜蜂无政府主义蜂群的研究进展
牛德芳, 郑火青, 胡福良
- 697 昆虫细胞自噬的生物学意义和自噬体膜的来源
谢 昆, 李建平, 周 瑞, 田志梅, 黄志君, 杨婉莹, 李 胜, 曹 阳
- 816 旋纹潜蛾的生物学及综合防治
虞国跃, 王 合, 张君明, 冯术快, 刘 曦, 赵连祥
- 917 果蝇翅原基发育分化的主要过程及分子机理
欧 俊, 郑思春, 冯启理, 刘 琳
- 925 杆状病毒与昆虫宿主相互作用的研究进展
孟庆峰, 刘晓勇
- 1026 昆虫 microRNA 的研究进展
刘永平, 杨 静, 刘 蕴
- 1038 白蚁踪迹信息素研究进展
嵇保中, 刘曙雯, 曹丹丹, 杨锦锦, 赵正萍, 张新慰
- 1047 木蜂的巢内行为和交配策略
贺春玲, 牛泽清, 罗阿蓉, 朱朝东, 吴燕如
- 1055 鞘翅目高级阶元分子系统学: 研究现状及存在的问题
聂瑞娥, 杨星科
- 1208 昆虫非典型嗅觉受体 Orco 的功能和分子结构研究进展
尹淑艳, 周成刚, 刘庆信
- 1217 系统发育分析中的最大简约法及其优化
郑 巍, 罗阿蓉, 史卫峰, 郑为民, 朱朝东
- 1342 昆虫多巴胺及其受体的研究进展
吴顺凡, 徐 刚, 齐易香, 夏仁英, 黄 佳, 叶恭银
- 1359 麦红吸浆虫在我国的发生、危害及防治
段 云, 蒋月丽, 苗 进, 巩中军, 李 彤, 武予清, 罗礼智
- 1469 昆虫鞣化激素研究进展
朱 斌, 刘孝明, 杜孟芳, 尹新明, 安世恒
- 1480 白蚁表皮碳氢化合物研究进展
杨锦锦, 嵇保中, 刘曙雯, 曹丹丹, 张新慰, 冀士琳, 刘佳佳, Ehsan SOLEYMANINEJADIAN, 汪洪江

1489 基于新一代测序技术的昆虫转录组学研究进展

张麒麟, 袁明龙

简 报

98 利用 TaqMan 等位基因技术鉴定烟粉虱 MEAM1 和 MED 隐种

姚 晶, 郭晓军, 王 甦, 王昱超, 罗 晨, 张 帆, 李绍勤

104 斑翅肩花蓟布丁人工饲料的饲养效果评价

李 立, 杨佳妮, 杨 桦, 胡海宏

195 小麦和大豆蚜虫中内共生菌 *Wolbachia* 的感染检测和系统发育分析

李 彤, 武予清, 肖金花, 段 云, 蒋月丽, 苗 进, 巩中军

201 球孢白僵菌九个菌株对赤拟谷盗成虫的毒效(英文)

Hediyeh GOLSHAN, Moosa SABER, Farzad MAJIDI-SHILSAR, Farrokh KARIMI

207 云南锦斑蛾幼虫体表分泌物甾萜类成分的分离与鉴定及其对黑头酸臭蚁的生物活性

黄圣卓, 公维昌, 马青云, 牛 洋, 梅文莉, 陈 高, 赵友兴

212 伯氏嗜木螨各发育阶段的外部形态扫描电镜观察

李朝品, 姜玉新, 刘 婷, 郭 伟, 王少圣, 陈 琪

323 铃木氏果蝇不同地理种群中 *Wolbachia* 的检测和系统发育分析

于 毅, 王 静, 陶云荔, 国 栋, 褚 栋

438 二斑叶螨抗螺螨酯品系 GST 基因的克隆与表达分析

吕娟娟, 王进军, 张寿芳, 沈慧敏

446 亚致死浓度氯虫苯甲酰胺可降低亚洲玉米螟的种群增长(英文)

宋月芹, 董钧锋, 孙会忠

452 小蠹类与天牛类引诱剂联用对蛀干甲虫的林间诱捕效果(英文)

王义平, 郭 瑞, 邓建宇, 张 真

566 两个单点突变对昆虫羧酸酯酶降解马拉硫磷的影响

张柳平, 姚淑敏, 林 哲, 崔 峰

570 三种绿叶挥发性物质对云南切梢小蠹寄主定位行为的干扰作用

王大伟, 赵 宁, 泽桑梓, 杨 斌

708 荧光增白剂对伊朗核型多角体病毒分离株对棉铃虫幼虫的杀虫活性的增效作用(英文)

Ali MEHRVAR

824 视觉和触角在栗山天牛雄虫近距离搜寻配偶行为中的作用

魏建荣, 高 纯, 高俊崇, 董丽君

934 取食 Cry2Ab 蛋白后棉铃虫幼虫中肠组织的病理变化

高 珍, 梁革梅, 魏纪珍, 张丽丽

945 辽宁省冬季温室内越冬粉虱伪蛹的种类鉴定及烟粉虱体内番茄黄化曲叶病毒的检测

张万民, 李洪冉, 朴春树, 张 丹, 陶云荔, 褚 栋

952 稻水象甲成虫活动行为的日节律

杨茂发, 杨大星, 徐 进, 刘健锋, 武承旭

960 粉尘螨生殖系统超微结构的透射电镜观察

王月明, 刘晓宇, 黄礼年, 孙 新, 刘志刚

1063 印度疟疾媒介库态按蚊卵黄蛋白原基因的克隆与生物信息学分析(英文)

Monika MIGLANI, Surendra Kumar GAKHAR

1075 不同抗药性水平二化螟幼虫中肠细菌群落多样性分析

张珏锋, 何月平, 陈建明

1083 大优角蚱卵块外型的数学模型研究及其生态学意义

白克强, 曹成全, 宋 伟

1088 三种花蓟马触角感器的超微结构

李维娜, 冯纪年

1229 伊朗棉铃虫核型多角体病毒三个分离株在规模化生产中的产量参数(英文)

Ali MEHRVAR

1509 灰飞虱唾液腺三大解毒酶家族的转录组分析

刘长莉, 卢利霞, 许艳丽, 杨鹏程, 崔 峰

1516 北京梨园绿盲蝽及其天敌的种群动态

郭晨茜, 王 璇, 杨宇晖, 刘小侠, 张青文

ACTA ENTOMOLOGICA SINICA Vol. 56 No. 1 – 12

GENERAL CONTENTS

RESEARCH PAPERS

❖ Physiology and Biochemistry

- 1 A comparative profiling of protein expression in the deltamethrin-sensitive and resistant strains of the diamondback moth (*Plutella xylostella*) (In English)
ZHANG Na-Na, ZHANG Hong, CHENG Chen, LI Feng-Liang, GAO Shao-Qi, CHENG Luo-Gen
- 9 Cloning, tissue expression profiling and prokaryotic expression of a sensory neuron membrane protein gene from *Apis cerana cerana* (Hymenoptera: Apidae)
HU Ying-Ying, XU Shu-Fa, LI Wei, Abebe Jenberie WUBIE, GUO Zhan-Bao, ZHOU Ting
- 111 Molecular cloning, sequence analysis and expression of a laccase-1 gene from *Bemisia tabaci* Middle East-Asia Minor 1 (Hemiptera: Aleyrodidae)
YANG Chun-Hong, PENG Lu, GUO Jian-Yang, YAN Ying, WAN Fang-Hao, WANG Jin-Jun
- 120 Physiological and biochemical changes in naturally overwintering adults of *Chrysoperla sinica* (Neuroptera: Chrysopidae) during diapause termination under two different photoperiods
CHEN Zhen-Zhen, ZHAO Nan, YIN Xiang-Chu, ZHANG Fan, XU Yong-Yu
- 131 Detecting thermal hysteresis activity of the total protein in insects with differential scanning calorimetry
CUI Ning-Ning, SONG Xi-Ming, ZOU Yuan-Ping, HAO Shu-Guang, XU Yong-Yu, WANG Xian-Hui
- 219 Screening of a peptide P2S binding to the midgut inner membrane in the rice brown planthopper, *Nilaparvata lugens* (Hemiptera: Delphacidae)
SHAO En-Si, LIN Li-Jin, GUAN Xiong
- 228 Construction and evaluation of yeast two-hybrid cDNA library of *Diaphorina citri* (Hemiptera: Psyllidae)
MA Xiao-Fang, CHEN Guo-Qing, ZHANG Xue-Chao, XU Hai-Jun
- 234 Molecular cloning, sequence analysis and developmental expression of cDNA fragment of juvenile hormone esterase from the whitefly *Bemisia tabaci* MED (Hemiptera: Aleyrodidae)
LONG Chu-Yun, GUO Jian-Yang, WAN Fang-Hao
- 243 Cloning and tissue expression profiling of the olfactory receptor co-receptor gene in adults of *Conogethes punctiferalis* (Lepidoptera: Crambidae)
GE Xing, ZHANG Tian-Tao, HE Kang-Lai, WANG Qin-Ying, LI Yun-Long, WANG Zhen-Ying
- 251 Changes of the protein and nucleic acid contents and the activities of protective enzymes in diapausing larvae of the rice stem borer, *Chilo suppressalis* (Lepidoptera: Crambidae)
YANG Guang-Ping, LIU Yu-Di, HOU Mao-Lin
- 329 Cloning, bioinformatic analysis and diapause-related expression of trehalose-6-phosphate synthase gene from the onion maggot, *Delia antiqua* (Diptera: Anthomyiidae)
LI Yuan, HAO You-Jin, ZHANG Yu-Juan, SI Feng-Ling, CHEN Bin
- 339 Molecular cloning, characterization and expression analysis of aquaporin 1 (AQP1) gene in *Spodoptera litura* (Lepidoptera: Noctuidae)
LIU Hai-Yuan, SHU Ben-Shui, JIANG Chun-Lai, LI Liang-De, ZHONG Guo-Hua
- 350 Morphological observation of compound eyes in the mutant strains, *lustrous* (*lu*) and *varnished eye* (*ve*), of the silkworm (*Bombyx mori*)
LI Qiong-Yan, LIU Chun, XUN Li-Jie, LI Dong, DANG Zeng-Qiang, LÜ Jin-Feng, XIA Qing-You
- 358 Observation on ovarian morphology and oogenesis in the cotton bollworm, *Helicoverpa armigera* (Lepidoptera: Noctuidae)
ZHANG Wan-Na, XIAO Hai-Jun, LIANG Ge-Mei, GUO Yu-Yuan
- 365 Comparative analysis of venomous alkaloids in workers of the red imported fire ant, *Solenopsis invicta* (Hymenoptera: Formicidae), from China and the United States
GUAN Di, LIAO Xiao-Lan, CHEN Li

- 457 Identification and expression patterns of heat shock protein genes in the diamondback moth, *Plutella xylostella* (Lepidoptera: Yponomeutidae)
XIA Xiao-Feng, LIN Hai-Lan, ZHENG Dan-Dan, YANG Guang, YOU Min-Sheng
- 465 Cloning, sequence analysis and prokaryotic expression of a P450 gene *HarmCYP9A33* from *Helicoverpa armigera* (Lepidoptera: Noctuidae)
JI Ji-Chao, AN Shi-Heng, LI Wei-Zheng, LUO Mei-Hao, YUAN Guo-Hui, GUO Xian-Ru
- 475 Cloning, sequence analysis and expression profiling of a heat shock protein 70 gene in *Tenebrio molitor* (Coleoptera: Tenebrionidae) (*In English*)
HUANG Qiong, HU Jie, SUN Lin, WANG Qin
- 486 Mating flight behaviour affects gene expression in matured virgin queens of *Apis cerana cerana* (Hymenoptera: Apidae)
WU Xiao-Bo, WANG Zi-Long, ZHANG Fei, SHI Yuan-Yuan, ZENG Zhi-Jiang
- 494 Influence of fluoride on activities of carboxylesterases and esterases in the larval midgut of the fluoride-resistant and susceptible strains of *Bombyx mori*
MI Zhi, RUAN Cheng-Long, LI Jiao-Rong, FU Qiao-Juan, WU Jing-Jie, SENDEGEYA Parfait, ZHU Yong
- 499 Effect of different microinjection operation of eggs on egg hatchability and the occurrence of malformation in the silkworm, *Bombyx mori*
ZHAO Tian-Fu, HAN Leng , WANG Yu-Jun, ZHU Yong, ZHANG Gao-Jun, NAKAGAKI Masao
- 575 Expression and binding specificity analysis of odorant binding protein AlucOBP7 from *Apolygus lucorum* (Hemiptera: Miridae)
JI Ping, LIU Jing-Tao, GU Shao-Hua, ZHU Xiao-Qiang , ZHANG Yong-Jun, GUO Yu-Yuan
- 584 Molecular cloning, sequence analysis and developmental expression profile of vitellogenin receptor gene in the whitefly *Bemisia tabaci* Middle East-Asia Minor 1 (Hemiptera: Aleyrodidae)
CHENG Lu, GUO Jian-Yang, LIU Shu-Sheng, YE Gong-Yin
- 594 Cloning, bioinformatic analysis and expression profiling of the prophenoloxidase cDNA from two color varieties of *Tenebrio molitor* (Coleoptera: Tenebrionidae)
HUANG Qiong, HU Jie, WANG Qin
- 605 Molecular cloning and expression analysis of an ecdysone receptor (EcR) gene in the wheat midge, *Sitodiplosis mosellana* (Diptera: Cecidomyiidae)
MA Kang-Sheng, LI Bo-Liao, CHEN Hao, WU Ju-Xiang
- 612 cDNA cloning, tissue expression and ligand binding characteristics of odorant-binding protein 2 from the oriental fruit fly, *Bactrocera dorsalis* (Diptera: Tephritidae)
CHEN Ling, LI Hong-Liang, ZHOU Yu-Xiang, ZHAO Lei, ZHANG Lin-Ya, NI Cui-Xia, SHANG Han-Wu
- 622 Effects of application of juvenile hormone and precocene on physiological trade-offs between flight muscle and reproductive development in the wing-dimorphic cricket *Velarifictorus ornatus* (Orthoptera: Gryllidae) (*In English*)
ZHAO Lü-Quan, ZHU Dao-Hong
- 630 Effects of larval density on the number and composition of haemocytes in the beet webworm, *Loxostege sticticalis* (Lepidoptera: Pyralidae)
YANG Zhi-Lan, CHENG Yun-Xia, LUO Li-Zhi, KONG Hai-Long, ZHANG Lei, LEI Chao-Liang
- 715 Integrin β is involved in regulating embryonic proliferation in the polyembryonic wasp *Macrocentrus cingulum* (Hymenoptera: Braconidae)
YAN Xi, WANG Peng, HU Jian
- 724 High-throughput discovery of SSR genetic markers in the yellow mealworm beetle, *Tenebrio molitor* (Coleoptera: Tenebrionidae), from its transcriptome database (*In English*)
ZHU Jia-Ying, WU Guo-Xing, YANG Bin
- 729 Cloning and expression analysis of *fem-1* genes from the oriental migratory locust, *Locusta migratoria manilensis* (Orthoptera: Locustidae)
SHI Hong, HAO You-Jin, CHEN Bin, SI Feng-Ling, WANG Peng, HE Zheng-Bo

- 738 Cloning, expression profiles in different developmental stages and under imidacloprid stress and prokaryotic expression of a ferritin gene in *Bemisia tabaci* MED (Hemiptera: Aleyrodidae)
BAI Run-E, WANG Xiong-Ya, LI Jing-Jing, LIU Xiao-Hua, XIONG Da-Bin, LI Dong-Bing, CAO Ling-Long, YAN Feng-Ming
- 747 Changes in expression levels of superoxide dismutase and acetylcholine genes in *Sitobion avenae* (Hemiptera: Aphididae) exposed to cadmium for long term
GAO Huan-Huan, YANG Jie, BAI Xiao-Hui, ZHANG Li, ZHAO Hui-Yan
- 754 Molecular cloning and functional identification of a Minus-C odorant binding protein from the rice striped stem borer, *Chilo suppressalis* (Lepidoptera: Pyralidae)
WEI Dan, YE Zhan-Feng, GAO Jian-Qing, DONG Shuang-Lin
- 765 Effects of four superoxide dismutases (SODs) from different sources on the lifespan, fecundity and tolerance to environmental stress of *Drosophila melanogaster*
HUANG Xiao-Feng, LIN Xia-Dan, ZHU Qian-Ting, ZHANG Wen-Qing
- 831 Expression pattern analysis of *BmCph2* in *Bombyx mori* strains with different acceptance of the artificial diet
LI Juan, ZHANG Sheng-Xiang, XU Xin, ZHANG Jin, GUO Xiao-Qi, ZHUO Wei-Wei, ZHOU Qian-Kai, LIU Qing-Xin, CUI Wei-Zheng, XU Shi-Qing
- 841 Functional studies of pacifastin proteinase inhibitor genes, *nvpp-1* and *nvpp-2*, in *Nasonia vitripennis* (Hymenoptera: Pteromalidae)
QIAN Cen, FANG Qi, WANG Lei, YE Gong-Yin
- 854 Cloning, induced expression and promoter activity of defensin-1 gene from the housefly (*Musca domestica*)
LU Dan, ZHENG Li, WANG Xin-Xin, WANG Fan, TANG Ting, LIU Feng-Song
- 965 Cloning and expression profiling of genes involved in glycometabolism in the midgut of *Spodoptera litura* (Lepidoptera: Noctuidae)
LUO Wan-Bing, HE Wen-Jing, HUANG Yu-Qiu, HU Dan, HUANG Li-Hua, FENG Qi-Li
- 974 Cloning and expression analysis of a gene encoding phospholipase A2 from the venom of *Bombus hypocrita* (Hymenoptera: Apidae)
GAO Li-Jiao, HUANG Jia-Xing, WU Jie
- 982 Activity changes of four enzymes in naturally overwintering adults of *Chrysoperla sinica* (Neuroptera: Chrysopidae) during the process of diapause termination under long and short photoperiods
CHEN Zhen-Zhen, SONG Nuan, GUO Ya-Nan, YU Jin-Feng, YIN Xiang-Chu, ZHANG Fan, XU Yong-Yu
- 989 Morphology of seminal vesicle and sperm of the male *Polistes chinensis antennalis* (Hymenoptera: Vespidae)
TAN Jiang-Li, LI Jun-Lin, XING Lian-Xi, CHEN Xue-Xin
- 1101 Cloning and functional analysis of bursicon genes in the diamondback moth, *Plutella xylostella* (Lepidoptera: Plutellidae)
MA Xiao-Li, HE Wei-Yi, YOU Yan-Chun, LI Xiao-Jing, XU Xiu-Feng, HU Yu-Lan, YANG Guang, YOU Min-Sheng
- 1110 Prokaryotic expression and ligand binding characteristics of pheromone binding protein ASP1 in the Chinese honeybee (*Apis cerana cerana*)
WENG Chen, ZHANG Lin-Ya, ZHAO Lei, FU Yu-Xia, LUO Chen, LI Hong-Liang
- 1117 Gene cloning, polyclonal antibody preparation and differential expression of zinc transporter 7-like (ZnT-7-like) in *Apis mellifera carnica* (Hymenoptera: Apidae)
SHEN Jie, LIU Zhen-Guo, SHEN Fang, JI Ting
- 1127 Screening of the normalized cDNA library from *Holotrichia oblita* (Coleoptera: Scarabaeida) antennae using yeast two-hybrid system
WANG Bing, YIN Jiao, LI Ke-Bin, CAO Ya-Zhong
- 1235 Isolation of genes adapted to insect-resistant rice in the salivary glands of the brown planthopper, *Nilaparvata lugens* (Hemiptera: Delphacidae)
CHEN Peng-Yu, LIU Shun-Zhi, WANG Xiao-Lan

- 1244 Molecular cloning and function analysis of cuticular protein gene *NIICP* in the rice brown planthopper, *Nilaparvata lugens* (Hemiptera: Delphacidae)
MA Yan, HAO Pei-Ying, LU Chao-Feng, YU Xiao-Ping
- 1252 Proliferation and programmed cell death in the fat body in workers of the Italian honeybee (*Apis mellifera ligustica*) during postembryonic development
LI Zhao-Ying
- 1367 Seasonal changes in humidity level in the tropics impact body color polymorphism and water balance in *Drosophila jambulina* (In English)
Ekta KHASA, Parul BADHWAR, Veer BHAN
- 1381 Cloning and expression profiling of an attacin gene in response to cold stress in the desert beetle *Microdera punctipennis* (Coleoptera: Tenebrionidae)
LI Jie-Qiong, LU Xue-Ying, LIU Xiao-Ning, MA Ji
- ❖ **Pathology**
- 18 Detection and phylogenetic analysis of three secondary endosymbionts in populations of *Aleurodicus dispersus* (Hemiptera: Aleyrodidae) in Hainan, southern China
YU Wei-Wei, DU Yu-Zhou, LI Wei-Dong
- 372 Genotypic polymorphism of *Spodoptera litura* nucleopolyhedrovirus (SpltNPV) in the wild (In English)
LIU Yan-He, WANG Li-Hua, FANG Ji-Chao
- 505 Identification of differentially expressed genes in the larval midgut of the silkworm (*Bombyx mori*) after bacterial infection (In English)
ZHU Yan-Ju, LÜ Zhi-Qiang
- 864 Changes of trehalase activity and contents of trehalose and glucose in the hemolymph of *Dendrolimus tabulaeformis* (Lepidoptera: Lasiocampidae) larvae infected with *Beauveria brongniartii*
FAN Jin-Hua, XIE Ying-Ping, XUE Jiao-Liang, ZHANG Hai-Tao
- ❖ **Toxicology and Resistance**
- 29 Induced expression of *hsp70* mRNA by nitenpyram, chlorpyrifos and beta-cypermethrin in *Bemisia tabaci* Mediterranean (Hemiptera: Aleyrodidae)
GUO Ya-Jie, LIANG Pei, GAO Xi-Wu
- 39 Effects of imidacloprid on DNA methylation polymorphism in the brown planthopper, *Nilaparvata lugens* (Hemiptera: Delphacidae)
DONG De-Zhen, DONG Yan-Fei, GE Zhou-Miao, WANG Dong-Mei, CHEN Jie, LU Yong-Quan
- 47 Effects of α -terpineol fumigation on the *in vivo* antioxidant activity in *Zophobas morio* (Coleoptera: Tenebrionidae)
TIAN Yu-Nong, MA Wei, WEI Qing-Hui, LUO Shuai, HAN Xu-Yang, CHEN Xu-Ri, QIU Ben-Jun, MA Ling
- 136 Effects of four fungicides on phenoloxidase activity in *Trichogramma ostrinae* (Hymenoptera: Trichogrammatidae)
JIN Hua-Chao, YIN Xiao-Hui, ZHU Guo-Nian
- 257 Chemical composition and antimicrobial activity of petroleum ether extracts from adults of *Coccinella septempunctata* (Coleoptera: Coccinellidae)
SUN Tao, ZHANG Ya-Mei, ZHANG Xia, TIAN Ye, LI Ya-Wei, LIU Wen-Cong
- 379 Screening of an insecticide-susceptible strain of *Culex pipiens quinquefasciatus* (Diptera: Culicidae)
YUE Qiu-Juan, YAO Shu-Min, LIU Yang-Yang, LIU Shi-Juan, CUI Feng
- 512 Effect of cantharidin on cell membrane integrity and potential in *Spodoptera frugiperda* Sf9 cells
WANG Li, ZHANG Lai-Xi, ZHANG Zhi-Yong, YANG Bao-Dong, WANG Jin-Zhong, ZHANG Ai-Huan, ZHANG Min-Zhao
- 521 Sublethal effects of indoxacarb and beta-cypermethrin on *Plutella xylostella* (Lepidoptera: Plutellidae)
SONG Liang, ZHANG Jin-Ming, LÜ Yao-Bin
- 530 Influences of spray method and volume on the deposition of acetamiprid and pymetrozine and their efficacy against cotton aphids in cotton fields
ZHU Yu-Kun, ZHENG Yan-Ming, WANG Jie, XIA Xiao-Ming, WANG Kai-Yun

- 638 Characteristics of resistance to insecticides and change of activities of the related enzymes in *Helicoverpa armigera* (Lepidoptera: Noctuidae) from transgenic Bt cotton fields in Hebei Province, North China
ZHANG Shao-Hua, LI Zhe, MA Zhuo, WANG Chun-Yi, LI Chun-Ying, WANG Xiu-Ji, HE Yun-Zhuan
- 772 mRNA expression profiling of signal molecules on the pathway of nicotinic acetylcholine receptor in *Periplaneta americana* (Blattaria: Blattidae) treated with deoxypodophyllotoxin
LI Yan, WANG Li-Shan, LIU Jing-Li, WANG Jun, CHENG Jie, GAO Cong-Fen, XIAO Hang, GAO Rong
- 779 Fumigation activity of 41 essential oils against *Culex pipiens pallens* (Diptera: Culicidae)
FU Chen-Chen, WAN Tao, JIANG Zhi-Li, WU Hua, FENG Jun-Tao, MA Zhi-Qing, ZHANG Xing
- 870 Effects of isoniazid intake on the glutathione redox cycle and glutathione S-transferase activity in larvae of the silkworm, *Bombyx mori*
WEI Guang-Bing, WANG Lu, YIN Wei-Min, HE Yue, ZHU Wen-Juan, ZHOU Qian-Kai, ZHAO Lin-Chuan, XU Shi-Qing, SIMA Yang-Hu
- 1135 Selection for Cry1Ie resistance and cross-resistance of the selected strain to other Cry toxins in the Asian corn borer, *Ostrinia furnacalis* (Lepidoptera: Pyralidae)
HE Ming-Xia, HE Kang-Lai, WANG Zhen-Ying, WANG Xin-Ying, LI Qing
- 1143 Cross-resistance to clothianidin and acetamiprid in the imidacloprid-resistant strain of *Aphis gossypii* (Hemiptera: Aphididae) and the related enzyme mechanisms
CHEN Xiao-Kun, XIA Xiao-Ming, WANG Hong-Yan, QIAO Kang, WANG Kai-Yun
- 1152 Screening of suitable reference genes and expression profiling of CYP392E subfamily genes in different resistant strains of *Tetranychus urticae* (Acari: Tetranychidae)
YANG Shun-Yi, YUE Xiu-Li, WANG Jin-Jun, SHEN Hui-Min
- 1258 Effects of imidacloprid on the distribution of nicotine acetylcholine receptors in the brain of adult honeybee (*Apis mellifera ligustica*)
ZHOU Ting, SONG Huai-Lei, WANG Qiang, DAI Ping-Li, WU Yan-Yan, SUN Ji-Hu
- 1391 Biological activities of wintergreen oil and cinnamon oil against *Culex pipiens pallens* (Diptera: Culicidae)
MA Wei-Bin, FENG Jun-Tao, MA Zhi-Qing, JIANG Zhi-Li, ZHANG Xing
- ❖ **Ecology and Pest Management**
- 54 Impact of imidacloprid residue after seed dressing on laboratory populations of *Sitobion avenae* (Hemiptera: Aphididae)
ZHANG Yun-Hui, HAN Er-Bin, LI Xiang-Rui, JIANG Jin-Wei, CHENG Deng-Fa
- 60 Influence of rasping-sucking feeding of thrips on surface ultrastructure and the contents of amino acids and proteins in *Ficus benjamina* leaves
YU De-Yi, HU Jin-Feng, HUANG Peng, YAO Jin-Ai, LAN Yan-Yang, FANG Da-Lin
- 69 Biological characteristics of the ber fruit fly, *Carpomya vesuviana* (Diptera: Tephritidae)
HU Long-Sheng, TIAN Cheng-Ming, ZHU Yin-Fei, ZHOU Zhong-Zan, REN Ling, QI Chang-Jiang
- 145 Photoperiod and temperature influence significantly diapause intensity of the cotton bollworm, *Helicoverpa armigera* (Lepidoptera: Noctuidae)
CHEN Yuan-Sheng, CHEN Chao, LIU Xing-Ping, XUE Fang-Sen
- 153 Behavioral responses of *Hippodamia variegata* (Coleoptera: Coccinellidae) to volatiles from plants infested by *Aphis gossypii* (Hemiptera: Aphidae) and analysis of volatile components
LI Yan-Yan, ZHOU Xiao-Rong, PANG Bao-Ping, HAN Hai-Bin, YAN Feng
- 161 Preferences of *Bactrocera cucurbitae* (Diptera: Tephritidae) to different colors: a quantitative investigation using virtual wavelength (*In English*)
XUE Huang-Wa, WU Wei-Jian
- 167 Biological and morphological observations on *Oryctes rhinoceros* (Coleoptera: Dynastidae) in the laboratory
ZHONG Bao-Zhu, LÜ Chao-Jun, WANG Dong-Ming, QIN Wei-Quan, LI Hong, WANG Zhi
- 173 Plantation management history and coarse woody debris characteristics influence the diversity of saproxylic beetles associated with Chinese cedar in Tianmushan, Zhejiang, East China (*In English*)
WU Jie, PAN Hui, YANG Shu-Zhen, NIU Xiao-Ling

- 263 Functional response of thelytokous and arrhenotokous strains of *Trichogramma dendrolimi* (Hymenoptera: Trichogrammatidae) to eggs of *Corcyra cephalonica* (Lepidoptera: Pyralidae) at different temperatures
XIE Li-Na, DONG Hui, QIAN Hai-Tao, YAN Jing-Jing, CONG Bin
- 270 Changes in activities of protective enzymes in green poplar induced by exogenous jasmonic acid and the effects on larval development of the gypsy moth, *Lymantria dispar* (Lepidoptera: Lymantriidae)
YUE Hui-Fang, DUAN Li-Qing, LI Hai-Ping, ZHANG Li-Na, WANG Xiao-Li, ZHANG Zhi-Lin
- 276 Effects of brief exposure to high temperature on *Tetranychus turkestanii* and *T. truncatus* (Acari: Tetranychidae)
YANG Shuai, ZHAO Bing-Mei, LI Guang-Yun, HU Su-Li, GUO Yan-Lan, ZHANG Jian-Ping
- 286 Mutualistic association between lac insect *Kerria yunnanensis* (Hemiptera: Kerriidae) and ant *Crematogaster macaoensis* (Hymenoptera: Formicidae)
WANG Si-Ming, CHEN You-Qing, LU Zhi-Xing, LIU Chun-Ju, ZHANG Wei
- 293 Flower-visiting insect diversity of the alien plant *Erigeron annuus* (Asteraceae) in Nanjing, southeastern China and an analysis of factors influencing their foraging preference
SONG Hai-Tian, LI Bao-Ping, MENG Ling
- 385 Changes in contents of the essential elements N, P, K and Ca in alfalfa organs damaged by *Odontothrips loti* (Thysanoptera: Thripidae)
JING Kang-Kang, SHI Shang-Li, HU Gui-Xin, WANG Xiao-Shan, ZHU Bo
- 392 Initiation and rhythm of larva-translocation behavior during maternal care in an ectoparasitoid *Sclerodermus guani* (Hymenoptera: Bethyridae)
WU Shao-Long, XU Fu-Yuan, LI Bao-Ping, MENG Ling
- 537 Diet composition and trophic niche of *Oedaleus asiaticus* (Orthoptera: Acrididae) in natural grasslands under different grazing pressure in Inner Mongolia, northern China (In English)
LIU Gui-He, HAO Shu-Guang, SHAO Xin-Qing, ZHANG Ying-Jun, WANG Shi-Ping
- 644 Effects of begomovirus infection of tomato plants on leaf trichome density and foraging performance and fitness of *Eretmocerus hayati* (Hymenoptera: Aphelinidae), a parasitoid of the whitefly *Bemisia tabaci* (Hemiptera: Aleyrodidae)
PAN Deng, WANG Lan-Lan, LIU Shu-Sheng, LI Yuan-Xi, LIU Yin-Quan
- 652 Biotype distribution and infection status of tomato yellow leaf curl virus (TYLCV) in *Bemisia tabaci* (Hemiptera: Aleyrodidae) in Xinjiang, northwestern China
CAO Qian, LI Jing, MAIREMUGULI · Keyimu, WANG Hui-Qing, LI Guo-Zhi, MA De-Ying
- 665 Life table parameters and feeding behavior of *Sitobion avenae* (Hemiptera: Aphididae) on wheat under UV-B stress
ZHANG Li, ZHOU Dong, YANG Jie, ZHU Guo-Ping, ZHAO Hui-Yan, HU Zu-Qing, HU Xiang-Shun
- 671 Effects of temperature on the growth and development of *Pyralis farinalis* (Lepidoptera: Pyralidae), one insect used for producing insect tea in China
SHANG Xiao-Li, YANG Mao-Fa, ZHANG Chang-Rong, CAI Lan, FENG You-Li, QIU Ting
- 680 Effect of phytase transgenic maize on the community dynamics of carabid beetles (Coleoptera: Carabidae)
ZHAO Cai-Yun, XIAO Neng-Wen, LIU Xiao-Yan, HE Ding-Yuan, GUAN Xiao, BAI Jia-De, LI Jun-Sheng
- 786 Combined effects of temperature and relative humidity on eggs of the rice leaf folder, *Cnaphalocrocis medinalis* (Lepidoptera: Pyralidae)
FANG Yuan-Song, LIAO Huai-Jian, QIAN Qiu, LIU Xiang-Dong
- 792 Synergistic effect of visual and olfactory cues in the food searching behavior of *Drosophila melanogaster*
FENG Bo, WANG Xia, LI Yan, DU Yong-Jun
- 799 Effects of host plants on the developmental duration, feeding and reproduction of the nipa palm hispid, *Octodonta nipae* (Coleoptera: Chrysomelidae)
XI Bo, ZHANG Zhi-Yong, HOU You-Ming, SHI Zhang-Hong
- 878 Biological characteristics and mating advantage of the red-eye mutant of the small brown planthopper, *Laodelphax striatellus* (Hemiptera: Delphacidae)
WANG Li-Hua, ZHUANG Ze-Jin, LI Yong-Teng, FANG Ji-Chao

- 884 Effects of body weight and feeding on the flight capacity of adults of *Osmia excavata* (Hymenoptera: Megachilidae)
DING Nan, XIN Xing-Guang, ZHOU Xian-Hong, MEN Xing-Yuan, YU Yi, ZHANG An-Sheng, LI Li-Li, ZHUANG Qian-Ying
- 890 Growth and development patterns of *Hydrotaea spinigera* (Diptera: Muscidae) and their significance for estimating postmortem interval
MA Ting, GUI Ling-Feng, WANG Jiang-Feng
- 896 The multivariate similarity clustering analysis and geographical division of insect fauna in China
SHEN Xiao-Cheng, LIU Xin-Tao, REN Ying-Dang, SHEN Qi, LIU Xiao-Guang, ZHANG Shu-Jie
- 996 Effects of photoperiod and temperature on diapause induction in *Ostrinia furnacalis* (Lepidoptera: Pyralidae)
GUO Jian-Qing, ZHANG Hong-Gang, WANG Zhen-Ying, HE Kang-Lai
- 1004 Effects of temperature on the development and reproduction of *Chrysolina aeruginosa* (Coleoptera: Chrysomelidae)
WEI Shu-Hua, ZHU Meng-Meng, ZHANG Rong, HUANG Wen-Guang, YU Zhao
- 1010 Optimal day-age and temperature for cold storage of *Trichogramma chilonis* (Hymenoptera: Trichogrammatidae) reared on *Corcyra cephalonica* (Lepidoptera: Galleriidae) eggs
YUAN Xi, FENG Xin-Xia, LI Dun-Song, ZHANG Bao-Xin, WANG Zhen-Ying
- 1160 Diapause induction and cold storage of diapause cocoons in *Agrypon flexorium* (Hymenoptera: Ichneumonidae)
XU Zhong-Bao, LIU Ai-Ping, XU Lin-Bo, GAO Shu-Jing, WANG Jian-Mei, SU Chun-Fang, KANG Ai-Guo, ZHANG Yu-Hui
- 1166 Performances of tachinid fly *Exorista civilis* (Diptera: Tachinidae) parasitizing host *Mythimna separata* (Lepidoptera: Noctuidae) larvae fed with Cry1Ab toxin
YANG Hai-Xia, CHENG Yun-Xia, ZHANG Lei, NIU Chang-Ying, LUO Li-Zhi
- 1174 Expression of some defense enzyme genes in kidney bean leaves fed by *Frankliniella occidentalis* (Thysanoptera: Thripidae)
CONG Chun-Lei, ZHI Jun-Rui, XIE Lu-Fei, MOU Feng
- 1181 Preferences of *Apopestes spectrum* (Lepidoptera: Noctuidae) adults to murals in a simulated cave in Mogao grottoes, Dunhuang
WANG Wan-Fu, WU Fa-Si, ZHANG Guo-Bin, ZHAO Lin-Yi
- 1189 Monitoring of the population dynamics of *Proxenus lepigone* (Lepidoptera: Noctuidae) in North China and analysis of the source of its populations in northern Beijing
ZHANG Zhi, ZHANG Yun-Hui, JIANG Yu-Ying, XIE Ai-Ting, WEI Shu-Jun, CHENG Deng-Fa, JIANG Jin-Wei, ZHANG Fang-Mei, PENG He
- 1267 Ecological significance of wing spot dimorphism in *Drosophila biarmipes* (Diptera: Drosophilidae) (In English)
Ravi PARKASH, Chanderkala LAMBHOD, Divya SINGH
- 1275 Impacts of transgenic *cry1Ab/vip3H + epsps japonica* rice on the population dynamics of its non-target herbivores, rice leafhoppers, under field conditions
LU Zeng-Bin, HAN Nai-Shun, XU Gang, LIU Yu-E, HU Cui, PENG Yu-Fa, GUO Yu-Yuan, YE Gong-Yin
- 1286 Life table of the parthenium beetle, *Zygogramma bicolorata* (Coleoptera: Chrysomelidae), under different environmental variables (In English)
OMKAR, Shruti RASTOGI, Ahmad PERVEZ
- 1294 Life table of the emerald ash borer, *Agilus planipennis* Fairmaire (Coleoptera: Buprestidae), based on special time survey data
LU Ji-Fang, WANG Zhi-Yong, YANG Zhong-Qi, WEI Ke, YANG Yuan-Liang, WANG Jian, SITU Chun-Nan, FU Fu-Yong
- 1306 An adaptive method for catching pest insects based on LED
YANG Hui, LI Peng, JIN Ji-Yu, ZHAO Xin, WANG Zhi-Sen
- 1314 Species diversity, community structure difference and indicator species of leaf-litter ants in rubber plantations and secondary natural forests in Yunnan, southwestern China
ZHANG Nian-Nian, CHEN You-Qing, LU Zhi-Xing, ZHANG Wei, LI Ke-Li

- 1397 Behavioral and electroretinogram (ERG) responses of *Anomala corpulenta* (Coleoptera: Rutelidae) to circularly polarized light
JIANG Yue-Li, GUO Yu-Yuan, WU Yu-Qing, MIAO Jin, GONG Zhong-Jun, DUAN Yun, LI Tong
- 1404 Thermal death kinetics of fruit flies *Bactrocera dorsalis*, *B. papayae* and *B. correcta* (Diptera: Tephritidae)
LI Bai-Shu, ZHAN Guo-Ping, WANG Yue-Jin, REN Li-Li, LIU Bo, LI Tian-Xiu
- 1413 Changes of polyphenol oxidase activity in potato leaves after potassium supply and aphid infestation
MA Xiao-Lin, BAI Xue, LI Hui-Jun, XU Song-He, REN Qin
- 1418 Seasonal migratory behavior of *Mythimna separata* (Lepidoptera: Noctuidae) in Northeast China (In English)
ZHANG Yun-Hui, ZHANG Zhi, LI Chao, JIANG Yu-Ying, ZENG Juan, CHENG Deng-Fa
- 1430 Life history, reproduction and overwintering biology of the small brown planthopper, *Laodelphax striatellus* (Hemiptera: Delphacidae), in Nanchang, Jiangxi, East China
WANG Liu-Feng, FU Shu, XIAO Liang, CHEN Chao, XUE Fang-Sen
- 1440 Morphology, life history and circadian rhythm of the fruit-piercing moth, *Oraesia emarginata* (Lepidoptera: Noctuidae)
FENG Bo, HU Wu-Xin, PAN Hua, DU Yong-Jun
- ❖ **Evolution and Systematics**
- 79 Microsatellite marker analysis of the genetic diversity of *Oedaleus asiaticus* (Orthoptera: Acrididae) populations in Inner Mongolia, northern China
HAN Hai-Bin, ZHOU Xiao-Rong, PANG Bao-Ping, ZHANG Min-Zhe, LI Hai-Ping
- 186 Identification of nine cryptic species of *Bemisia tabaci* (Hemiptera: Aleyrodidae) from China by using the *mtCOI* PCR-RFLP technique
QIN Li, WANG Jia, BING Xiao-Li, LIU Shu-Sheng
- 299 A comparative study on karyotypes of four long-horned beetles (Coleoptera: Cerambycidae)
SU Li-Juan, ZHANG Hong-Fei, XU Wei, YIN Xin-Ming, LI Jing, GAO Xin-Hao
- 306 Ultrastructure and development of the Haller's organ of parthenogenetic *Haemaphysalis longicornis* (Acari: Ixodidae)
WANG Duo, HU Yong-Hong, LIU Jing-Ze
- 398 Structure characteristics of the mitochondrial genomes of Diptera and design and application of universal primers for their sequencing
ZHANG Nai-Xin, ZHANG Yu-Juan, YU Guo, CHEN Bin
- 408 Comparative analysis of mitochondrial genomes of two long-legged katydids (Orthoptera: Tettigoniidae)
ZHOU Zhi-Jun, YANG Ming-Ru, CHANG Yan-Lin, SHI Fu-Ming
- 548 Nuclear mitochondrial pseudogenes used as 'fossil' markers to trace back the speciation time of two sibling fig wasp species (In English)
LOU Wen-Jing, TENG Wen-Jia, LIU Hai-Yang, LI Zi, XIAO Jin-Hua, WEI Zhong-Yuan, HUANG Da-Wei
- 554 Microsatellite DNA analysis of genetic diversity of *Apis cerana cerana* in Hainan Island, southern China
XU Xin-Jian, ZHOU Shu-Jing, ZHU Xiang-Jie, ZHOU Bing-Feng
- 689 Identification of *Phenacoccus solenopsis* Tinsley (Hemiptera: Pseudococcidae) with species-specific COI (SS-COI) primers
TIAN Hu, LI Xiao-Feng, WAN Fang-Hao, ZHANG Gui-Fen, ZHANG Jin-Liang
- 807 Genetic diversity and demographic history of *Dolichus halensis* (Schaller) (Coleoptera: Carabidae) populations in the Qinling Mountains, China
YIN Huan, LI Xiao-Chen
- 907 Analysis of genetic differentiation and gene flow among different geographic populations of *Oedaleus infernalis* (Orthoptera: Acrididae) based on mtDNA COI gene sequences
SUN Wei, ZHANG Zhu-Ting, DONG Hui, QIAN Hai-Tao, SHI Yu, XIE Li-Na, CONG Bin
- 1020 Identification and damage of the bluegrass webworm moth, *Parapediasia teterrella* (Zincken) (Lepidoptera: Crambidae), a new invasive pest on lawns in Shanghai, eastern China
GAO Lei, JU Rui-Ting, DING Jun-Jie, XU Ying, WANG Jian-Guo

- 1203 A taxonomic study of the genus *Liaopodisma* Zheng, 1990 (Orthoptera, Acridoidea, Catantopidae, Podisminae) with descriptions of two new species from China (*In English*)
YIN Xiang-Chu, CHEN Zhen-Zhen, YIN Zhan
- 1324 Sequence and phylogenetic analyses of mtDNA-COI and rDNA-ITS1 genes in populations of *Aleurodicus dispersus* (Hemiptera: Aleyrodidae) in Hainan, southern China
YU Wei-Wei, YANG Wen-Yan, DU Yu-Zhou, LI Wei-Dong
- 1335 Using sparse coding and SCG BPNN to recognize images of lepidopteran insects
ZHU Le-Qing, ZHANG Zhen
- 1452 Morphological variations of *Myzus persicae* (Hemiptera: Aphididae) from different geographical populations in China
ZHAO Chong, WANG Xiu-Fang, CHEN Dan, WANG Xin-Wei, XUE Dong, REN Guang-Wei
- 1464 A taxonomic study of the genus *Erianthella* Descamps, 1975 (Orthoptera, Eumastacoidea, Chorotypidae) with descriptions of two new species from China (*In English*)
YIN Xiang-Chu, ZHENG Fang-Qiang, YIN Zhan

REVIEW ARTICLES

- 88 Neuron mechanism of odor perception in mosquitoes
LU Peng-Fei, QIAO Hai-Li, LUO You-Qing
- 312 Progress in functions and molecular mechanisms of the transcription factor Fox
LIU Zhao-Yang, GAO Hui-Ju, MU Zhi-Mei, LIU Qing-Xin
- 419 Progress in termite pheromones
CHENG Dong-Bao
- 427 Characteristics and application of *Diglyphus* parasitoids (Hymenoptera: Eulophidae: Eulophinae) in controlling the agromyzid leafminers
LIU Wan-Xue, WANG Wen-Xia, WANG Wei, ZHANG Yi-Bo, WAN Fang-Hao
- 561 Research progress in anarchistic honeybees
NIU De-Fang, ZHENG Huo-Qing, HU Fu-Liang
- 697 Biological significance of the occurrence of autophagy and the source of autophagosomal membrane in insects
XIE Kun, LI Jian-Ping, ZHOU Rui, TIAN Zhi-Mei, HUANG Zhi-Jun, YANG Wan-Ying, LI Sheng, CAO Yang
- 816 Bionomics and integrated control of the pear leaf blister moth, *Leucoptera malifoliella* (Lepidoptera: Lyonetiidae)
YU Guo-Yue, WANG He, ZHANG Jun-Ming, FENG Shu-Kuai, LIU Xi, ZHAO Lian-Xiang
- 917 The main processes and molecular mechanisms of wing disc development and differentiation in *Drosophila*
OU Jun, ZHENG Si-Chun, FENG Qi-Li, LIU Lin
- 925 Research progress in the interactions of baculoviruses with host insects
MENG Qing-Feng, LIU Xiao-Yong
- 1026 Research progress in microRNAs in insects
LIU Yong-Ping, YANG Jing, LIU Yun
- 1038 Research progress in trail pheromones in termites
JI Bao-Zhong, LIU Shu-Wen, CAO Dan-Dan, YANG Jin-Jin, ZHAO Zheng-Ping, ZHANG Xin-Wei
- 1047 In-nest ethology and mating strategies of the carpenter bees *Xylocopa* spp. (Hymenoptera: Apidae)
HE Chun-Ling, NIU Ze-Qing, LUO A-Rong, ZHU Chao-Dong, WU Yan-Ru
- 1055 Higher level phylogeny of Coleoptera based on molecular methods: current status and problems
NIE Rui-E, YANG Xing-Ke
- 1208 Progress in functions and molecular structure of the atypical insect olfactory receptor Orco
YIN Shu-Yan, ZHOU Cheng-Gang, LIU Qing-Xin
- 1217 Phylogenetic algorithms: maximum parsimony and its optimization
ZHENG Wei, LUO A-Rong, SHI Wei-Feng, ZHENG Wei-Min, ZHU Chao-Dong
- 1342 Advances in insect dopamine and its receptors
WU Shun-Fan, XU Gang, QI Yi-Xiang, XIA Ren-Ying, HUANG Jia, YE Gong-Yin

- 1359 Occurrence, damage and control of the wheat midge, *Sitodiplosis mosellana* (Diptera: Cecidomyiidae), in China
DUAN Yun, JIANG Yue-Li, MIAO Jin, GONG Zhong-Jun, LI Tong, WU Yu-Qing, LUO Li-Zhi
- 1469 Progress in insect bursicon
ZHU Bin, LIU Xiao-Ming, DU Meng-Fang, YIN Xin-Ming, AN Shi-Heng
- 1480 Research progress in cuticular hydrocarbons of termites
YANG Jin-Jin, JI Bao-Zhong, LIU Shu-Wen, CAO Dan-Dan, ZHANG Xin-Wei, JI Shi-Lin, LIU Jia-Jia, Ehsan SOLEYMANINEJADIAN, WANG Hong-Jiang
- 1489 Progress in insect transcriptomics based on the next-generation sequencing technique
ZHANG Qi-Lin, YUAN Ming-Long

SHORT COMMUNICATIONS

- 98 Discrimination of cryptic species MEAM1 and MED of *Bemisia tabaci* (Hemiptera: Aleyrodidae) by using TaqMan allele-selective PCR
YAO Jing, GUO Xiao-Jun, WANG Su, WANG Yu-Chao, LUO Chen, ZHANG Fan, LI Shao-Qin
- 104 Evaluation of an artificial pudding diet for rearing *Tetraphleps galchanoides* (Hemiptera: Anthocoridae)
LI Li, YANG Jia-Ni, YANG Hua, HU Hai-Hong
- 195 Detection and phylogenetic analysis of *Wolbachia* in wheat and soybean aphids in China
LI Tong, WU Yu-Qing, XIAO Jin-Hua, DUAN Yun, JIANG Yue-Li, MIAO Jin, GONG Zhong-Jun
- 201 Efficacy of nine isolates of *Beauveria bassiana* against adults of *Tribolium castaneum* (Coleoptera: Tenebrionidae) (*In English*)
Hediyeh GOLSHAN, Moosa SABER, Farzad MAJIDI-SHILSAR, Farrokh KARIMI
- 207 Isolation and identification of cyanogenic glycosides from larval secretions of *Achelura yunnanensis* (Lepidoptera: Zygaenidae) and the bioactivity against *Tapinoma melanocephalum* (Hymenoptera: Formicidae)
HUANG Sheng-Zhuo, GONG Wei-Chang, MA Qing-Yun, NIU Yang, MEI Wen-Li, CHEN Gao, ZHAO You-Xing
- 212 SEM observation on external morphology of *Caloglyphus berlesei* (Acari: Astigmata: Acaridae) at different developmental stages
LI Chao-Pin, JIANG Yu-Xin, LIU Ting, GUO Wei, WANG Shao-Sheng, CHEN Qi
- 323 Detection and phylogenetic analysis of *Wolbachia* in different geographical populations of *Drosophila suzukii* (Diptera: Drosophilidae)
YU Yi, WANG Jing, TAO Yun-Li, GUO Dong, CHU Dong
- 438 Cloning and expression profiling of glutathione S-transferase genes in the spiroadiclofen-resistant strain of *Tetranychus urticae* Koch (Acari: Tetranychidae)
LÜ Juan-Juan, WANG Jin-Jun, ZHANG Shou-Fang, SHEN Hui-Min
- 446 Chlorantraniliprole at sublethal concentrations may reduce the population growth of the Asian corn borer, *Ostrinia furnacalis* (Lepidoptera: Pyralidae) (*In English*)
SONG Yue-Qin, DONG Jun-Feng, SUN Hui-Zhong
- 452 Field efficacy of combinations of attractants for bark beetles and longicorn beetles in trapping wood-boring beetles (*In English*)
WANG Yi-Ping, GUO Rui, DENG Jian-Yu, ZHANG Zhen
- 566 Effect of two single mutations on malathion degradation by insect carboxylesterases
ZHANG Liu-Ping, YAO Shu-Min, LIN Zhe, CUI Feng
- 570 Interruption of host-location behavior in the Yunnan pine shoot beetle, *Tomicus yunnanensis* (Coleoptera: Scolytidae), with three green leaf volatiles
WANG Da-Wei, ZHAO Ning, ZE Sang-Zi, YANG Bin
- 708 Synergistic effects of optical brighteners on the insecticidal activities of Iranian nucleopolyhedrovirus isolates against *Helicoverpa armigera* (Lepidoptera: Noctuidae) larvae (*In English*)
Ali MEHRVAR
- 824 Roles of vision and antennae in the short-distance mate searching behavior of male adults of *Massicus raddei* (Coleoptera: Cerambycidae)
WEI Jian-Rong, GAO Chun, GAO Jun-Chong, DONG Li-Jun

- 934 Pathological changes in larval midgut tissues of the cotton bollworm, *Helicoverpa armigera* (Lepidoptera: Noctuidae), after feeding Cry2Ab
GAO Zhen, LIANG Ge-Mei, WEI Ji-Zhen, ZHANG Li-Li
- 945 Species identification of over-wintering whitefly pseudo-pupae and detection of the infection status of *tomato yellow leaf curl virus* in *Bemisia tabaci* in winter greenhouses in Liaoning, northeastern China
ZHANG Wan-Min, LI Hong-Ran, PIAO Chun-Shu, ZHANG Dan, TAO Yun-Li, CHU Dong
- 952 Diurnal rhythm of adult behavior of the rice water weevil, *Lissorhoptrus oryzophilus* (Coleoptera: Curculionidae)
YANG Mao-Fa, YANG Da-Xing, XU Jin, LIU Jian-Feng, WU Cheng-Xu
- 960 Ultrastructure of the reproductive system in *Dermatophagoides farinae* (Acariformes: Pyroglyphidae) observed with transmission electron microscopy
WANG Yue-Ming, LIU Xiao-Yu, HUANG Li-Nian, SUN Xin, LIU Zhi-Gang
- 1063 Cloning and bioinformatical analysis of vitellogenin gene of the Indian malaria vector *Anopheles culicifacies* (Diptera: Culicidae) (In English)
Monika MIGLANI, Surendra Kumar GAKHAR
- 1075 Diversity analysis of bacterial community in midguts of larvae of the striped stem borer, *Chilo suppressalis* (Lepidoptera: Crambidae), with different levels of resistance to insecticides
ZHANG Jue-Feng, HE Yue-Ping, CHEN Jian-Ming
- 1083 Mathematical model of the egg mass of *Eucrotettix grandis* and its ecological implications
BAI Ke-Qiang, CAO Cheng-Quan, SONG Wei
- 1088 Ultrastructure of antennal sensilla in three species of *Frankliniella* Karny (Thysanoptera: Thripidae)
LI Wei-Na, FENG Ji-Nian
- 1229 Virus yield parameters in mass production of three Iranian geographic isolates of *Helicoverpa armigera* nucleopolyhedrovirus (In English)
Ali MEHRVAR
- 1509 Transcriptomic analysis of three detoxification enzyme families in the salivary glands of the small brown planthopper, *Laodelphax striatellus* (Hemiptera: Delphacidae)
LIU Chang-Li, LU Li-Xia, XU Yan-Li, YANG Peng-Cheng, CUI Feng
- 1516 Population dynamics of *Apolygus lucorum* (Hemiptera: Miridae) and its natural enemies in a pear orchard in Beijing
GUO Chen-Xi, WANG Xuan, YANG Yu-Hui, LIU Xiao-Xia, ZHANG Qing-Wen